

Appl. No. 09/551,408
Amdt. dated June 16, 2009
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 3731

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-39 (canceled)

40. (Currently amended) A method of aerosolizing a liquid, comprising the steps of:

electroforming a vibratable aperture plate made of palladium or a palladium alloy, the aperture plate having a front surface and a rear surface, the palladium or palladium alloy aperture plate being electroformed to form a plurality of tapered conical-shaped apertures extending from the rear surface to the front surface, the plurality of apertures being tapered to narrow from the rear surface to the front surface, the aperture plate further being formed to have a dome shape, mounting the vibratable aperture plate upon a support member wherein substantially all of a vibratable portion of the aperture plate not directly mounted to the support member comprises the dome shape: providing a fluid at the rear surface of the aperture plate; and vibrating the aperture plate to eject the fluid through the plurality of tapered conical-shaped apertures.

41. (Previously presented) The method of claim 40, wherein:
the electroforming step is carried out with the aperture plate being palladium cobalt.

42. (Previously presented) The method of claim 40, wherein:
the electroforming step is carried out with the aperture plate being palladium nickel.

43. (Previously presented) The method of claim 40, wherein:

the electroforming step is carried out with the aperture plate being about 80% palladium and about 20% nickel.

44. (Withdrawn) An apparatus for delivering aerosolized droplets of fluid to the respiratory system of a user, comprising:

a vibratory apertured element having a liquid receiving face; an aerosol emission face, and a plurality of tapered apertures therethrough, the apertures tapering from wide to narrow in the direction from the liquid receiving face to the aerosol emission face;

wherein the vibratory apertured element comprises an element comprised of a palladium-nickel alloy; and

wherein the apertures are configured to emit liquid droplets upon vibration of the vibratory apertured element.

45. (Withdrawn) The apparatus of claim 44, wherein the palladium-nickel alloy is comprised of about 80 percent of palladium and about 20 percent of nickel.

46. (Withdrawn) The apparatus of claim 45, wherein the palladium-nickel alloy is substantially comprised of about 80 percent of palladium and about 20 percent of nickel.

47. (Withdrawn) The apparatus of claim 46, wherein the alloy consists essentially of about 80 percent of palladium and about 20 percent of nickel.

48. (Withdrawn) The apparatus of claim 44, wherein the vibratory apertured element consists essentially of a unitary solid alloy element consisting of about 80 percent of palladium and about 20 percent of nickel.

49. (Withdrawn) The apparatus of claim 48, wherein the unitary solid alloy element consists essentially of about 80 percent of palladium and about 20 percent of nickel.

50. (Withdrawn) An apparatus for delivering aerosolized droplets of fluid to the respiratory system of a user, comprising:

a vibratory apertured element having a liquid receiving face; an aerosol emission face, and a plurality of tapered apertures therethrough, the apertures tapering from wide to narrow in the direction from the liquid receiving face to the aerosol emission face;

wherein the vibratory apertured element comprises an element comprised of a palladium-nickel alloy; and

wherein the apertures have a diameter of between about 1 micron and about 6 microns at the aerosol emission face.

51. (Withdrawn) The apparatus of claim 50, wherein the apertures have a diameter of about 1 micron to about 5 microns at the aerosol emission face.

52. (Withdrawn) The apparatus of claim 50, wherein the palladium-nickel alloy is comprised of about 80 percent of palladium and about 20 percent of nickel.

53. (Withdrawn) The apparatus of claim 52, wherein the palladium-nickel alloy is substantially comprised of about 80 percent of palladium and about 20 percent of nickel.

54. (Withdrawn) The apparatus of claim 53, wherein the alloy consists essentially of about 80 percent of palladium and about 20 percent of nickel.

55. (Withdrawn) The apparatus of claim 50, wherein the vibratory apertured element consists essentially of a unitary solid alloy element consisting of about 80 percent of palladium and about 20 percent of nickel.

56. (Withdrawn) The apparatus of claim 55, wherein the unitary solid alloy element consists essentially of about 80 percent of palladium and about 20 percent of nickel.